

Infectious Disease

BIO12-14

4 inquiry questions • 17 dot points

1 How are diseases transmitted?

- describe a variety of infectious diseases caused by pathogens, including microorganisms, macroorganisms and non-cellular pathogens, and collect primary and secondary-sourced data and information relating to disease transmission, including:...
- design and conduct a practical investigation relating to the microbial testing of water or food samples
- investigate modes of transmission of infectious diseases, including direct contact, indirect contact and vector transmission
- investigate the work of Robert Koch and Louis Pasteur, to explain the causes and transmission of infectious diseases, including:...
- assess the causes and effects of diseases on agricultural production, including but not limited to:...
- compare the adaptations of different pathogens that facilitate their entry into and transmission between hosts

2 How does a plant or animal respond to infection?

- investigate the response of a named Australian plant to a named pathogen through practical and/or secondary-sourced investigation, for example:...
- analyse responses to the presence of pathogens by assessing the physical and chemical changes that occur in the host animals cells and tissues

3 How does the human immune system respond to exposure to a pathogen?

- investigate and model the innate and adaptive immune systems in the human body
- explain how the immune system responds after primary exposure to a pathogen, including innate and acquired immunity

4 How can the spread of infectious diseases be controlled?

- investigate and analyse the wide range of interrelated factors involved in limiting local, regional and global spread of a named infectious disease
- investigate procedures that can be employed to prevent the spread of disease, including but not limited to:...
- investigate and assess the effectiveness of pharmaceuticals as treatment strategies for the control of infectious disease, for example:...
- investigate and evaluate environmental management and quarantine methods used to control an epidemic or pandemic
- interpret data relating to the incidence and prevalence of infectious disease in populations, for example:...
- evaluate historical, culturally diverse and current strategies to predict and control the spread of disease
- investigate the contemporary application of Aboriginal protocols in the development of particular medicines and biological materials in Australia and how recognition and protection of Indigenous cultural and intellectual property is important, for example:...